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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,635	03/19/2001	Martijn Henri Richard Lankhorst	NL 000142	9985

7590

03/26/2003

Michael E. Marion
Corporate Patent Counsel
U.S. Philips Corporation
580 White Plains Road
Tarrytown, NY 10591

EXAMINER

COLON, GERMAN

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/811,635

Applicant(s)

LANKHORST ET AL.

Examiner

German Colón

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 6 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Amendment, filed on January 13, 2003, has been entered and acknowledged by the Examiner.
2. Cancellation of claim 5 has been entered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "the gold content" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1, 2 and 6 rejected under 35 U.S.C. 102(b) as being anticipated by Yorifuji et al. (US 4,972,118).

Regarding claim 1, Yorifuji discloses a low-pressure mercury-vapor lamp comprising a discharge vessel 11,

which discharge vessel encloses a discharge space 17 provided with a filling of mercury and an inert gas in a gas-tight manner,

which discharge vessel contains an amalgam 27 which communicates with the discharge space 17,

and the low-pressure mercury-vapor discharge lamp comprises discharge means 25 for maintaining an electric discharge in the discharge space 17, characterized in that the amalgam 27 comprises a bismuth-lead compound having a lead content (Pb) in the range between $35 \leq \text{Pb} \leq 55$ at % (see Col. 2, line 28), a bismuth content (Bi) in the range between $45 \leq \text{Bi} \leq 65$ at % (see Col. 2, line 28), and a mercury content (Hg) of 0.5 at % (see Col. 3, line 17). The Examiner notes that Yorifuji discloses the wt % of Hg, Pb, and Bi; however, their atomic weights are very similar (200.59 u, 207.20 u, 208.98 u, respectively), rendering the at % substantially the same as the wt %.

Referring to claim 2, Yorifuji discloses the lead content laying in the range between $40 \leq \text{Pb} \leq 50$ at % (see Col. 2, line 28) and the bismuth content laying in the range between $50 \leq \text{Bi} \leq 60$ at % (see Col. 2, line 28).

Referring to claim 6, Yorifuji discloses an amalgam 27 for use in a low-pressure mercury-vapor discharge lamp.

Allowable Subject Matter

7. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claim 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

The Examiner notes that the Prior Art of Record discloses a low-pressure mercury-vapor lamp comprising a discharge vessel, which discharge vessel encloses a discharge space provided with a filling of mercury and an inert gas in a gas-tight manner, which discharge vessel contains an amalgam which communicates with the discharge space, and the low-pressure mercury-vapor discharge lamp comprises discharge means for maintaining an electric discharge in the discharge space, characterized in that the amalgam comprises a bismuth-lead compound having a lead content (Pb) in the range between $35 \leq \text{Pb} \leq 55$ at %, a bismuth content (Bi) in the range between $45 \leq \text{Bi} \leq 65$ at %, and a small mercury content (Hg).

Also, the Prior Art of Record discloses an amalgam comprising a compound having a lead content in the range between $24 \leq \text{Pb} \leq 48$ at %; a mercury content in the range between $0.1 \leq \text{Hg} \leq 0.5$ at %; a tin content in the range between $45 \leq \text{Sn} \leq 73$ at %; and a gold content in the range between $1 \leq \text{Au} \leq 15$ at %.

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Regarding claim 3, the references of the Prior Art of Record fail to teach or suggest the combination of the limitations as set forth in claim 3, and specifically comprising the limitation of "an amalgam comprising a compound having a lead content in the range between $35 \leq \text{Pb} \leq 60$ at %; a bismuth content in the range between $40 \leq \text{Bi} \leq 65$ at %; a mercury content in the range between $0.05 \leq \text{Hg} \leq 0.75$ at %; and a gold content in the range between $0.1 \leq \text{Au} \leq 20$ at %".

Referring to claim 4, the references of the Prior Art of Record fail to teach or suggest the combination of the limitations as set forth in claim 4, and specifically comprising the limitation of "an amalgam comprising a compound having a gold content in the range between $8 \leq \text{Au} \leq 12$ at %".

Applicants' argument on Paper No. 6, Page 7, lines 1-8, was persuasive. Rejection of claims 1, 3 and 4 under 35 U.S.C. § 103(a) is withdrawn.

Response to Arguments

10. Applicants' arguments filed on January 13, 2003 have been fully considered but they are not persuasive.

11. Applicants argue that Yorifuji et al. teaches an amalgam comprising a bismuth-lead compound having a lead content in the range between $35 \leq \text{Pb} \leq 55$ at %, a bismuth content in the range between $45 \leq \text{Bi} \leq 65$ at %, and a mercury content (Hg) of 0.5 at % as undesirable and the skilled artisan reading Yorifuji et al. would not entertain the idea of employing any amalgam having less than a 1 wt % Hg content.

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The Examiner concurs with applicants that Yorifuji does not disclose an amalgam having a lead content in the range between $35 \leq \text{Pb} \leq 55$ at %, a bismuth content in the range between $45 \leq \text{Bi} \leq 65$ at %, and a mercury content (Hg) of 0.5 at % as a *preferred embodiment*. However, Yorifuji does *anticipate* an amalgam having a lead content in the range between $35 \leq \text{Pb} \leq 55$ at %, a bismuth content in the range between $45 \leq \text{Bi} \leq 65$ at %, and a mercury content in the range between $0.05 \leq \text{Hg} \leq 0.75$ at %, as evidenced in Col. 3, line 17. Whether the 0.5 at % Hg content amalgam is considered a preferred embodiment or not, Yorifuji discloses the claimed invention been manufactured and tested, and therefore, a proper basis of rejection over anticipation is established.

Applicants argue that Yorifuji et al. teaches away from amalgams having mercury contents below 1 at %, and they cite Col. 5, lines 1-4 "If the amount of mercury is excessively small, a shortage of mercury would occur because of the consumption during the operation".

The Examiner concurs with applicant that Yorifuji teaches an excessively small Hg content as undesirable. However, there is no basis to conclusively state that a 0.5 at % Hg content is excessively small. Applicants' attention is directed to Col. 3, line 49, where an amalgam having 1 at % of Hg is taught as a desirable one. Also, Applicants' attention is respectfully addressed to claim 1, line 10, where an amalgam having a mercury content in the range between *about* 1 at % and 12 at % is considered a preferred embodiment. It has been held that a range of "about 1 at % to 12 at %" allows for concentrations slightly above and *below* the claimed range. In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) 2144.05.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 703-305-5987. The examiner can normally be reached on Monday thru Friday, from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 703-305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

gc

March 20, 2003



**NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**